Table 27. Matrix of data sets and their associated characteristics that were used or referenced in the biogeographic assessment							
Data Set	**Target Info.**	**Source Org and/or PI**	**Dates**	**Samples**	**Depth Range**	**Strengths of Data for Biogeographic Assessment**	**Constraints of Data for Biogeographic Assessment**
Triennial Shelf Trawl Data	Fish, Invertebrates	NMFS (Alaska & Northwest FSC)	1977-1998 every 3 years, June-Aug only	n=994	55-500m	Long time-series, wide spatial extent, fairly good depth range, abandoned trawl areas suggest areas of high rugosity	Sampling only in summer season, some trawls suspected of being off-bottom, rocky areas undersampled due to threat of gear damage.
Slope Trawl Data	Fish, Invertebrates	NMFS	1991, 1997, 1999, 2000, 2001, July-Nov only	n=454	190-1280m	10+ years of data, wide spatial extent, good depth range	Sampling for only 5 months (July-Nov.); identification of common inverts only
NMFS Midwater Trawl Data	Rockfish juveniles	NMFS / SWFSC	1986-2001, May-June only	n=1548	6-32m mean=26m	1500+ tows	Sampling only in May & June, along transects, targets juv. rockfish
Recreational Fish Data	Rockfish	CDF&G	1987-1998, continuous	n=4357	2-360 fm (3-650 m)	provides information about nearshore areas, wide range of depths.	No effort data (presence/absence only), effort targets Rockfish only
Laidig Data	Kelp-Associated Species	Tom Laidig/ NMFS	1983-1995 (Sonoma) year-round but sparse, 1984, 1997, 2001 (Monterey) May-Oct only	n=43 surveys	to max extent of scuba or kelp (<130 ft.)	provides year-round look at kelp in Sonoma 1983-95, quick look at Monterey in 84, 97, 2001; differentiates juveniles and adults.	Sampling is sparse, presence/absence data only, very limited spatial extent
Commercial Fishing Data	Commercially Valuable Fishes	CDF&G	1988-2000, year-round	n=117,176 (records grouped by species, not trip or boat)	shoreline to 4810m	All gear types, data can be sorted by gear, long time series.	Variable reliability re: locations of fishing, summarized to 10-minute grids (large scale), fisheries-dependent, can't sort by boat or trip/effort
Sediment	Substrate Composition	Greene et. al., National Sea Grant College Project	sampling dates unknown, received 12/2002	unknown number	shoreline to ~3500m	5 categories, provides the most comprehensive view of benthic substrates for the study area; in some places very detailed, high resolution; Original data consisted of seismic-reflection profiles and sediment/rock sample data collected by California Division of Mines and Geology, USGS, and California Coastal Commission. New data include multibeam data from MBARI, and Center for Habitat Studies at Moss Landing Marine Laboratories	Based on surface extrapolation of point data, most of the map is low resolution 1:250,000.
Bathymetry-200m	Depth, Topography	CDF&G	unknown	unknown	shoreline to 4810m	best available at the start of the project	Medium resolution
Bathymetry-30m	Depth, Topography	NOAA / NGDC & MBARI	unknown	unknown	shoreline to 4810m	provides higher resolution which increases ability to identify smaller areas of high bathymetric variance, ie. pinnacles and drop-offs	Better resolution, late availability for this project
Kelp Data	Kelp Location	CDF&G	1989, 1999	many, polygon data	surface	Polygons generated from aerial photos provide literal 'snapshot' of kelp along long stretch of coast.	Changes since 1999, missing sections, doesn't differentiate species
Sea Surface Temperature	Sea Surface Temperature	NOAA / Coastwatch	monthly composites	satellite data	surface	Monthly composites available for years 1992 - current.	Monthly composites will smooth out important temporal fluctuations, ie. short upwelling and relaxation events; corrected for best surface.
MMS High Altitude Aerial Surveys	Cetaceans & turtles	Dohl, Minerals Management Service (MMS)	1980-1983, in all three ocean seasons	1,057 cells visited; 76,888km of trackline; 10,014 cell-study-day visits	surface survey of the shelf, slope and deep ocean beyond	Relatively large spatial coverage; cost-effective, year-round synoptic surveys for cetaceans over the shelf and slope.	Data from early 1980s may not represent current status and distribution of species; high altitude surveys may not provide good characterization of smaller, less visible species.
MMS Low Altitude Aerial Surveys	Marine Birds and Mammals	Bonnell-PI for mammals, Briggs-PI for birds; MMS	1980-1983, in all three ocean seasons	870 cells visited; 70,114km of trackline; 9,306 cell-study-day visits	surface survey of the shelf, slope and deep ocean beyond	Relatively large spatial coverage; cost-effective, year-round synoptic surveys for species over the shelf and slope.	Data from early 1980s may not represent current status and distribution of species; low altitude surveys may not provide good characterization of rare cetacean species.
EPOCS Shipboard Surveys	Marine Birds and Mammals	Ainley	1984-1994, in all three ocean seasons	76 cells visited; 1,033km of trackline; 77 cell-study-day visits	surface survey of the deep ocean	Includes outer Calif Current surveys; better species sightability on a ship than an airplane.	Spatial coverage is not as robust as with the aerial surveys, but sightability for some species is better.

CA Seabird Ecology Low Altitude Aerial Surveys	Marine Birds and Mammals	Briggs	1985, mainly Upwelling Season (spring)	284 cells visited; 4,119km of trackline; 558 cell-study-day visits	surface survey of the shelf and slope	Restricted temporal coverage, low altitude surveys may not provide good characterization of rare cetacean species.	Spatial coverage is typically not as robust as with the aerial surveys
NMFS Midwater Trawls for Juv. Rockfish Assessment: Ship Surveys	Juvenile Rockfish and Marine Birds and Mammals	Ainley	1985-2001, mainly Upwelling Season (spring)	623 cells visited; 26,514km of trackline; 5,745 cell-study-day visits	surface survey of the shelf, slope and deep ocean to 3000m	Long time series with matching data on oceanography and prey availability.	Data quality required filtering (and data loss) owing to wind-generated ocean conditions. Data restricted to upwelling season (part of spring and summer).
OSPR Low Altitude Aerial Surveys	Marine Birds and Mammals	Bonnell, Tyler	1994-98 and in 2001, during all three ocean seasons	251 cells visited; 15,763km of trackline; 991 cell-study-day visits	surface survey of the shelf and slope	Restricted spatial coverage; low altitude surveys may not provide a good characterization of rare cetacean species.	Smaller, less visible species are missed, and little in the way of coincident oceanographic/habitat data are available.
MMS Santa Barbara Channel Low Altitude Aerial Surveys	Marine Birds and Mammals	Bonnell	1995-1997, in all three ocean seasons	41 cells visited; 1,555km of trackline; 128 cell-study-day visits	surface survey of the shelf and slope	Restricted spatial coverage, low altitude surveys may not provide good characterization of rare cetacean species.	Smaller, less visible species are missed, and little in the way of coincident oceanographic/habitat data are available.
SF-DODS Shipboard Surveys	Marine Birds and Mammals	Ainley	1996-2000, in all three ocean seasons	155 cells visited; 12,645km of trackline; 3,511 cell-study-day visits	surface survey of the shelf, slope, and deep ocean to 3000m	Several years in which data were collected in all three ocean seasons with corresponding oceanographic data.	Data quality required filtering (and data loss) owing to wind-generated ocean conditions.
NMFS ORCAWALE Ship Survey	Marine Birds and Mammals	Ballance	2001, mainly the Oceanic Season	235 cells visited; 1,933km of trackline; 330 cell-study-day visits	surface survey of the shelf, slope & deep ocean beyond	Includes outer California Current surveys, which are not often sampled.	Relatively large spatial coverage compared with other surveys, but the data is only from one season.